

1. An apparatus for analyzing biologic fluid, comprising:  
a first planar member;  
a second planar member, wherein at least one of the first planar member and second planar member is transparent; and  
at least three separators disposed between the planar members, separating the planar members to form a chamber having a height extending between the planar members;  
wherein at least one of the first planar member, second planar member, or separators is flexible to permit the chamber height to be substantially uniform.
2. The apparatus of claim 1 wherein at least one of the first planar member and the second planar member comprise flexible plastic.
3. The apparatus of claim 2, wherein both of the first planar member and the second planar member comprise flexible plastic.
4. The apparatus of claim 1, wherein the separators are flexible relative to the first planar member and second planar member.
5. The apparatus of claim 1, wherein one of the separators, first planar member, and second planar member, has a greater flexibility relative to at least one of the others of the separators, first planar member, and second planar member.
6. The apparatus of claim 5, wherein the first planar member has a greater flexibility than the second planar member and the separators.
7. The apparatus of claim 1, wherein the separators are attached to at least one of the first planar member or the second planar member.

8. The apparatus of claim 1 wherein at least one of the first planar member or the second planar member comprises linked rigid elements.
9. The apparatus of claim 1 wherein one of the first planar member or the second planar member comprises linked rigid elements and the other of the first planar member or second planar member comprises flexible plastic.
10. The apparatus of claim 1 wherein the separators include uniformly dyed, slightly compressible plastic beads.
11. The apparatus of claim 1 wherein the separators are projections of uniform height attached to at least one of the first planar member or second planar member.
12. The apparatus of claim 1 wherein one of the first planar member or the second planar member comprises one or more ports.
13. An apparatus for analyzing biologic fluid, comprising:
  - a tape including a first planar member and a second planar member spaced apart from one another and bonded together at discrete points, wherein at least one of the first planar member and second planar member is transparent, and at least one chamber having a height is formed between the planar members, and at least three separators are disposed in each of the at least one chamber, and wherein at least one of the first planar member, second planar member, or separators is flexible to permit the chamber height to be substantially uniform;
  - a source reel on which the tape may be wound; and
  - a take-up reel on which the tape may be wound.
14. The apparatus of claim 13, wherein the at least one chamber includes a port.

15. The apparatus of claim 13, wherein one of the separators, first planar member, and second planar member, has a greater flexibility relative to at least one of the others of the separators, first planar member, and second planar member.

16. The apparatus of claim 15, wherein the first planar member has a greater flexibility than the second planar member and the separators.

17. The apparatus of claim 13 wherein at least one of the first planar member and the second planar member comprise flexible plastic.

18. The apparatus of claim 17, wherein both of the first planar member and the second planar member comprise flexible plastic.

19. The apparatus of claim 13, wherein the separators are attached to at least one of the first planar member or the second planar member.

20. The apparatus of claim 13 wherein one of the first planar member or the second planar member comprises linked rigid elements and the other of the first planar member or second planar member comprises flexible plastic.

21. The apparatus of claim 13 wherein the separators include uniformly dyed, slightly compressible plastic beads.

22. An apparatus for analyzing biologic fluid, comprising:

a first planar member;

a first source reel;

a second planar member, wherein at least one of the first planar member and

second planar member is transparent,

a second source reel;

a plurality of separators attached to one of the first planar member or second planar;

a pair of nip-rollers, spaced apart from one another an amount that causes the first planar member and second planar member to be in contact with substantially all of the separators when the planar members are drawn between the nip-rollers;

at least one chamber having a height, which chamber is formed between the planar members downstream of the nip-rollers, and wherein at least one of the first planar member, second planar member, or separators is flexible to permit the chamber height to be substantially uniform; and

at least one take-up reel for receiving one or both of the planar members.

23. The apparatus of claim 22, wherein the at least one chamber includes a port.

24. The apparatus of claim 22, wherein one of the separators, first planar member, and second planar member, has a greater flexibility relative to at least one of the others of the separators, first planar member, and second planar member.

25. The apparatus of claim 24, wherein the first planar member has a greater flexibility than the second planar member and the separators.

26. The apparatus of claim 22 wherein one of the first planar member or the second planar member comprises linked rigid elements and the other of the first planar member or second planar member comprises flexible plastic.

27. A method of enumerating the cellular or particulate constituents of a sample of whole, anticoagulated blood, comprising the steps of:

providing an apparatus for analyzing biologic fluid that includes a first planar member, a second planar member, wherein at least one of the first planar member and second planar member is transparent, and at least three separators disposed between the

planar members, separating the planar members to form a chamber having a height extending between the planar members, wherein at least one of the first planar member, second planar member, or separators is flexible to permit the chamber height to be substantially uniform;

depositing a quantity of biologic fluid into contact with one of the first planar member or second planar member surface;

approximating the planar members to form a film of biologic fluid confined between the two planar members as separated by the separators;

determining the volume of biologic fluid contained within the film;

directly or indirectly enumerating all constituents of interest within substantially the all of the film; and

expressing the enumerated constituents as a count per unit volume.

28. The method of claim 27, wherein the biologic fluid is blood.

29. The method of claim 28, further comprising the step of:

calculating the chamber height by measuring the average attenuation of light transmitted through the separators.

30. The method of claim 29, wherein the step of determining the volume of biologic fluid contained within the film, further comprises the steps of:

determining the area of the film; and

calculating the volume of biologic fluid by multiplying the chamber height times the area of the film.

31. The method of claim 27 wherein the film volume is calculated by interferometric imaging of the drop of biologic fluid deposited onto the planar member prior to approximating the planar members.

32. A method of enumerating the cellular or particulate constituents of a sample of whole, anticoagulated blood, comprising the steps of:

providing a tape including a first planar member and a second planar member spaced apart from one another and bonded together at discrete points, wherein at least one of the first planar member and second planar member is transparent, and at least one chamber having a height is formed between the planar members, and at least three separators are disposed in each of the at least one chamber, and wherein at least one of the first planar member, second planar member, or separators is flexible to permit the chamber height to be substantially uniform, a source reel on which the tape may be wound, and a take-up reel on which the tape may be wound;

depositing a quantity of biologic fluid into the at least one chamber;

determining the volume of biologic fluid contained within at least a portion of the at least one chamber;

directly or indirectly enumerating all constituents of interest within substantially the volume of biologic fluid; and

expressing the enumerated constituents as a count per unit volume.